DB2 Performance Monitor for OS/390

General Information

Version 6

GC26-9172-00

Note

Before using this information and the product it supports, be sure to read the general information under “Appendix. Notices” on page 27.

First Edition, June 1999

This edition applies to Version 6 of IBM DATABASE 2 Performance Monitor for OS/390, a feature of IBM DATABASE 2 Universal Database Server for OS/390 Version 6 (5645-DB2), and to all subsequent releases and modifications until otherwise indicated in new editions.

Chapter 1. What you find in this book

This book is divided into the following sections:

- **Introducing DB2 PM**

  A brief overview of IBM DB2 Performance Monitor for OS/390 (DB2 PM) and its basic functions and relation to DB2(R).

- **DB2 PM scenarios**

  Scenarios showing how DB2 PM can help you with specific performance issues, such as managing poor response times and coping with lock suspension problems.

- **What's new in Version 6**

  A description of new functions that were added to DB2 PM and an overview of how DB2 PM supports the latest enhancements of DB2 Version 6.

- **Planning for DB2 PM**

  The system requirements for installing and running DB2 PM and sources where you can get more information about DB2 PM.

Contents

Chapter 2. Who this book is for

This book is for all users of DB2 who want to get a general overview of DB2 PM functions and benefits, and for those who are already using DB2 PM and want to upgrade to Version 6.

It explains how DB2 PM can help you identify resource usage that could influence DB2 performance. However, it does not show how to use DB2 PM. This information is given in the manuals accompanying the product.

Chapter 3. Introducing DB2 PM

The performance challenge

Enhancing database performance has become an important subject in data processing, where there is a constant and growing need to save time and resources.

In addition, to gain and sustain a competitive advantage, it becomes more and more important to get optimum performance from your database management system. Monitoring performance can help find bottlenecks and identify performance-critical areas.

To achieve these objectives, you need a tool that is capable of monitoring the performance of IBM's relational database server DB2, and that provides useful support when it comes to enhancing DB2's performance and resolving critical performance issues. The following pages show how DB2 PM can help you meet this challenge. And this well into the year 2000, as DB2 PM also supports the calendar for the next millennium.

DB2 and DB2 PM—a well-matched team

Version 6 of DB2 UDB for OS/390 includes more optional features than prior releases:

- DB2 Performance Monitor
- DB2 Data Propagator
- DB2 Buffer Pool Tool
- DB2 Administration Tool
- Net Data for OS/390
- DB2 Installer
- DB2 Visual Explain
- DB2 Estimator for Windows
- DB2 Connect for Windows
- DB2 for OS/390 Control Center enablement
- Query Management Facility and QMF for Windows

Together with these features, DB2 Version 6 represents IBM's relational database server for OS/390(R). In response to customer and market demands, it provides powerful client/server capabilities and functional enhancements to simplify usability and improve productivity. And you can trust its reliability, as all server components are integration tested by IBM.

Provides Performance Analysis and Tuning function

DB2's workstation-based Performance Analysis and Tuning function is designed to simplify system administration. You can use this function to access subsystem statistics data. This function also gives you field tuning recommendations to help you analyze and improve your system performance. Workstation Analysis & Tuning is delivered to DB2 licensees free of charge and is packaged on the media with the DB2 PM Try-and-Buy feature. In order to utilize this capability, you must install DB2 PM Try.

Full analysis and tuning functionality to optimize your DB2 systems and DB2 applications is available through the DB2 Performance Monitor feature.

Guarantees protected investment

DB2 PM provides complete coverage of the latest DB2 enhancements and helps you get the most out of the latest DB2 version. Whenever you move to a new version of DB2 you can be sure that DB2 PM is there with you to support all the new features in DB2. And previous versions of DB2 are supported as well.

The close relation between DB2 and DB2 PM development ensures that your performance issues are in the best of hands and your investment in DB2 is protected. Of course, DB2 PM is also used by DB2 development and IBM's performance measurement group to test the performance of a new DB2 version before it is released.

Ensures reliable information

DB2 PM uses only the official DB2 application interfaces. Therefore you can trust the accuracy of the data delivered by DB2 PM.

Can be ordered as one product

You can order DB2 PM Version 6 as a feature of DB2 Version 6 along with it or at a later time.

In any case, you will get DB2 PM Version 6 when you order DB2 Version 6. Test it, free of charge, for 90 days from the date you install it. If you decide to keep DB2 PM, you can order it any time during the try-and-buy time. If you do not acquire a license before the try-and-buy program ends, DB2 PM is deactivated on your system, but you can still access your subsystem statistics data. You can reactivate DB2 PM, however, any time without having to reinstall. Simply install the DB2 PM Buy feature of DB2 for OS/390 Version 6, which you can order from IBM.

DB2 PM - your best choice for ultimate performance

DB2 generates and collects data about its own performance, called instrumentation data. However, DB2 itself has no reporting facility to evaluate and present this data. This is where the DB2 PM feature comes in. It lets you monitor DB2 and DB2 applications, and helps you create and interpret data about their performance. All this in an easy-to-understand form and to any level of detail.

You can use DB2 PM to:

- Monitor DB2 and DB2 applications online
- Get alerted immediately when problems occur
- View and examine the status of a DB2 subsystem and its applications while they are currently active or investigate events and performance problems that happened in the past
- Monitor individual data sharing members or entire data sharing groups
- Monitor applications running in a Sysplex Query Parallelism environment, even if the parallel tasks are executed on different processors
- Analyze performance problems online or through a vast set of detailed reports
- Obtain tuning recommendations
- Have the access paths of your SQL statements explained in order to optimize them
- Recognize periodic exceptions and event exceptions and take appropriate actions by means of a user exit
- Restrict user authorization to specific areas or specific threads
- Recognize trends and anticipate potential bottlenecks

DB2 PM's output gives you valuable hints on potential performance problems and useful assistance for corrective and preventive measures. By automating routine tracking activities, such as monitoring DB2 exceptions, DB2 PM gives the database administrator and the application and system programmer more time to focus on other tasks.

Gives snapshot, recent, and historical information

No matter whether you need to know what happened last week, yesterday, a few minutes ago, or just now, DB2 PM keeps you informed about every moment in time. Using DB2 PM you can view and examine:

- Currently active applications
- Active DB2 subsystems
- Events that happened in the recent past
- Performance problems in the more distant past
- Trends over a period of time

DB2 PM presents the status of a DB2 system or its applications at any time. You get the information you want with the detail you need.

Views online DB2 activity

With DB2 PM you see what is going on in your system. The Online Monitor observes and records selected activities within DB2 and DB2 applications. Using the DB2 PM Online Monitor you can obtain a snapshot view of currently active programs. The exception processing function can recognize significant deviations from the norm and notify the user who is working with the Online Monitor.

Besides a host-based Online Monitor, DB2 PM also provides a Workstation Online Monitor, which comes as an OS/2(R) and a Windows NT version. This Workstation Online Monitor substantially improves usability and simplifies online monitoring and problem analysis. It is integrated with the Control Center of DB2 UDB and can be invoked from that Graphical User Interface (GUI). The Workstation Online Monitor has some significant advantages:

- Eliminates the need to monitor through TSO.
- Improves your efficiency with an easy-to-use graphical user interface.
- Monitors multiple subsystems concurrently.
- Offers tuning recommendations on a per-field basis.
- Fully exploits all of the new functions of DB2 Version 6.

Viewing thread activity

This function lets you examine the current activity of all active threads connected to a DB2 subsystem by viewing key values for all DB2 threads. A summary window displays an overview of important thread-related data. From there you can select any thread to get a detailed view for further investigation. A History function lets you view data that was collected in the past. And there is a connection to Visual Explain so you can examine the access paths and processing methods chosen by DB2 for the currently executing SQL statement.

Viewing DB2 subsystem statistics

The statistics windows inform you about the DB2 system activity and provide you with system-wide performance data, helping you check the efficiency of your subsystems. Here too, a History function is available so you can view past data. And it also includes the view of data in a delta or interval time frame, which you can specify.

The system health panel shows vital statistics data of your DB2 subsystem as snapshots in a graphical format.

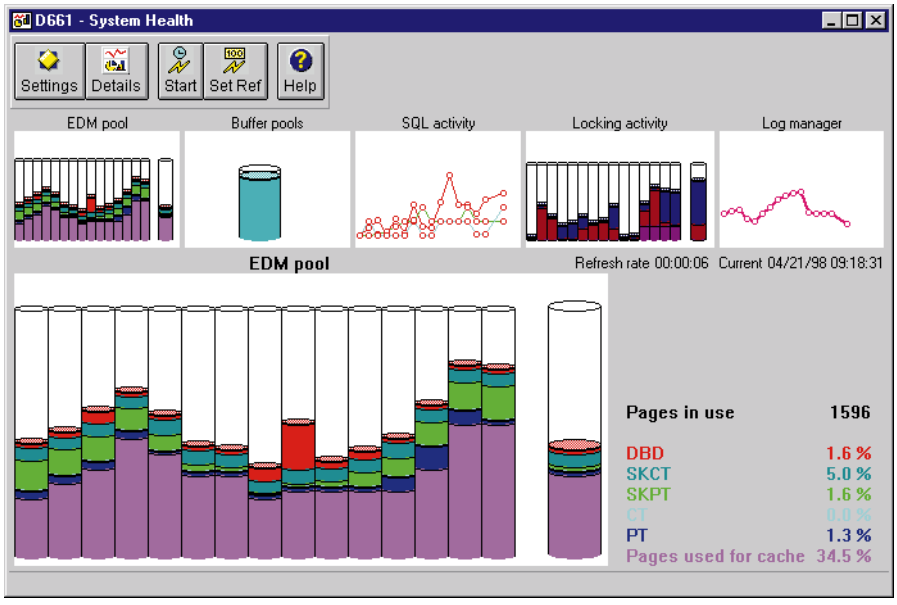

Figure 1. System Health window

Detects out-of-line situations immediately

Exception processing lets you focus on programs or subsystem statistics values which are outside defined limits. This way you can optimize service levels by identifying performance problems in a DB2 subsystem, or performance problems with application programs. And you can take advantage of a provided user exit, which is capable of issuing alerts via NetView. Using this function, you are immediately notified about problems for both thread and subsystem counters.

Exception profiling helps you establish reasonable limits based on trace data derived from your site-specific workload. You can determine the percentage of input data that should trigger a problem or warning. Then exception profiling uses your input data to calculate appropriate threshold values.

With exception processing you can monitor threshold-based exceptions, but also exception events such as authorization failures, deadlocks, and timeouts. With the exception threshold editor, you can set limits on most aspects of your system. For example, if you are concerned about the performance of a new application, you can set a maximum time limit. If you want to be aware that a problem is developing, you can also set a warning threshold.

When an exception occurs, it is reported in an exception log. Each threshold-based exception is listed with its begin time and end time. No end time indicates that an exception is still active. This way you can easily recognize if an exception occurred for a longer period of time or if it was just a temporary situation.

You can select any exception for closer examination.

Provides a wealth of report sets

The DB2 PM reporting facility presents performance information about details of events in reports, graphs, and data sets. The system-wide performance data shows information about CPU times, buffer pool usage, locking, I/O activity, and more. For a particular application, you can find out, for example, the elapsed time, the time spent in DB2, the time it was suspended, the read and write activity involved, the locks obtained, and the SQL statements executed.

DB2 PM's reporting facility generates output that is grouped into the following report sets:

- **Accounting**. Gives you information about particular applications and various areas of performance. You can use this report set to determine the efficiency of an application.
- **Statistics**. Summarizes system-wide performance data for various areas of performance, such as elapsed times and high-level information about SQL activity, locking, and buffer pool utilization. You can use this report set to determine the efficiency of a subsystem.
- **SQL Activity**. Identifies the SQL statements and the associated workload. Run this report set if your performance problem seems to be with the SQL statements.
- **Locking**. If the other report sets indicate that the problem is with locking activity, you can generate the appropriate locking report set.
- **I/O Activity**. Use this report set to investigate problems associated with read, write, and logging activity.
- **System Parameters**. Shows information about the configuration of your DB2 subsystem.
- **Explain**. Provides information about the access path selected by DB2 for SQL statements for a plan, package, or QMF(TM) query. You can use this information in application design and problem determination.
- **Record Trace**. If none of the above report sets can identify the cause of the problem, a record trace can be useful. The record trace formats selected instrumentation records into report entries that are easy to comprehend.
- **Utility Activity**. Run this report set if a DB2 utility or bind seems to be the cause of your performance problem.
- **Audit**. Shows information concerning authorization and the users of specific resources.

Reports and traces are usually printed, but you can also store them in sequential data sets and load them into DB2 PM's **performance database** for additional analysis. They give you comprehensive and in-depth information about any area in your application or DB2 subsystem.

Supports data sharing

DB2 PM monitors the use of DB2's data sharing resources for entire data sharing groups as well as for individual members of a group.

Both reporting facility and Online Monitor provide important data sharing indicators, such as:

- Global locking and group buffer pool usage
- Data sharing system parameters and group buffer pool changes
- Cross-invalidation

The statistics, locking, audit, and accounting report sets provide both group reporting and reporting by member. The other report sets provide reporting by member.

Group-scope reporting

Group-scope reports show information about the performance of an entire data sharing group. Data generated by all members of the group are merged to give a comprehensive picture of the use of a shared resource.

Group-scope reporting is especially helpful when you use MVS Workload Management (WLM) functions to balance your workload across a data sharing group. In such an environment, applications can be dynamically scheduled to run on different data sharing members.

Accounting group-scope reports help you get a complete picture of the resources an application has used, no matter on which members it ran. Performance data of applications that ran on several members can be summarized by member and for the whole data sharing group.

Member-scope reporting

Reports are also provided for individual members of a group, called member-scope reports. DB2 PM can report data from several DB2 subsystems within a data sharing group.

Supports Sysplex Parallelism

Sysplex Query Parallelism is a very powerful performance feature of DB2. It allows parallel tasks to run on any member of a data sharing group, even on different central processor complexes (CPCs).

The Accounting and SQL Activity report sets support Sysplex Query Parallelism in the same way as they supported CP Query Parallelism in earlier versions. The data of the originating task is combined with the data from all parallel tasks, regardless of which data sharing member they were executed on. You still get an application view of the thread as you got it for CP Query Parallelism.

Although the CPU time of the originating task and the parallel tasks might not be comparable if the tasks run on processors of different speed, DB2 PM can adjust the CPU times of the parallel tasks, so that they are normalized to the processor speed of the originating task. This guarantees that the CPU times of the originating task and the parallel tasks can be analyzed in a meaningful way.

Supplies various presentation styles

DB2 PM delivers the depth of information you require. You can select a comprehensive set of specialized reports and traces with different levels of detail for different areas of performance, or view the information online in panels and windows in a form that is easy to comprehend.

To generate the reports, you either type the appropriate DB2 PM command, specify the output data set, and submit the job. Or you create the job control by using panels and menus.

Supports tailoring of reports

You can customize the layout of your reports to meet your individual requirements, whether you are an application programmer, database administrator, or a capacity performance specialist. Tailoring is easy and can be done without changing the program. DB2 PM lets you generate report layouts that meet your needs best. You can make reports more compact by excluding fields or entire blocks, or you can make them more detailed and informative by including or rearranging blocks and fields.

Lets you focus on specific data

The amount of data generated from continuous monitoring of a DB2 subsystem can be vast. DB2 PM supplies several options that help you limit the data presented in reports and focus on the level of detail you need:

- **Exception processing**. Shows only those entries that have values outside specified limits. You can set different limits for various types of applications (such as batch, online, QMF) or various users.
- **Time and identifier filters**. Lets you filter data by specific identifiers, such as user ID or plan name. Then only data pertaining to these identifiers is reported. Or you can specify the start and end time to monitor your system, for example, during peak hours only.
- **TOP reporting**. Shows the highest usage of a particular resource.
- **Ordering by interval**. Displays DB2 activity at time intervals. This is especially useful in trend analysis and identifying peak periods.

Assists in planning your system's capacity

Besides its power in striving for optimum performance, DB2 PM can also serve as a planning tool for optimizing your resources. You can use it to realize trends and anticipate potential bottlenecks already at an early stage. This helps you discover problems before they actually occur, and take appropriate action in time.

Explains SQL statements

DB2 PM's explain function helps you improve the quality of your application programs. It allows you to prototype and tune SQL statements during coding and helps prevent SQL problems even before executing a program. The explain function analyzes and explains the access path and processing methods DB2 has chosen for an SQL statement in a format that is easy to comprehend.

What is more, you need not leave your current editor session to evaluate the performance of a new DB2 application. You can have SQL statements explained on a local or remote DB2 system while editing the source of your application. The explain facility supports Assembler, C, FORTRAN, COBOL, PL/I, or SPUFI source files.

You can specify the name of the DB2 subsystem DB2 PM should connect to, and on which remote subsystem the explain process is to be performed. So you need not worry if you can only connect to your local DB2 test system. You can still have your SQL statements explained on the remote DB2 production system, as long as DB2 PM can connect to it from the local DB2 system. With DB2 PM's explain function you can analyze plans and packages. By using this function, you will find that the productivity of your application development will noticeable improve. And if you are using the Workstation Online Monitor, you can take advantage of Visual Explain to present DB2 explain data in a graphical format.

Chapter 4. DB2 PM scenarios

While you are working with DB2 applications, you are often faced with performance issues such as:

- Unsatisfactory response times
- Problematic transactions
- Performance objectives that have to be met
- Trends that have to be observed over a period of time
- Unusual situations, for example, constraints acting on an application

The following sections lead you through scenarios to show how DB2 PM can help you manage your performance objectives.

Finding the cause for poor response time

This scenario shows how you can use DB2 PM's exception processing function to identify a response time problem with an application.

To find out where too much time is consumed, you monitor the critical application. The exception processing function helps you identify performance-critical areas by setting time limits for fields that you think will signal poor performance in your environment.

Only data exceeding these limits is reported and you can easily recognize where the time-critical factors are hiding.

Setting individual time limits

The first step in finding the time-critical event is to define a time limit. In DB2 PM these limits are called exception thresholds. You are provided with a set of sample exception thresholds to help you get started.

You can choose from several categories of exception thresholds. In this example, you focus on **Elapsed, CPU, and Waiting Times**, because you want to find out about the elapsed time in the application. Once you have selected this category, the **Elapsed time in application (class 1)** gets focus. Now you can enter threshold values in the red-bordered Problem level box and the yellow-bordered Warning level box.

Or you can use the **Exception Profiling** function to help you find reasonable threshold values. To do this, type asterisks (*) in the warning and problem threshold fields of the Edit Exception Threshold Set window. Then export and transfer this threshold set to the host server where the actual values for these fields are calculated by the Exception Profiling function.

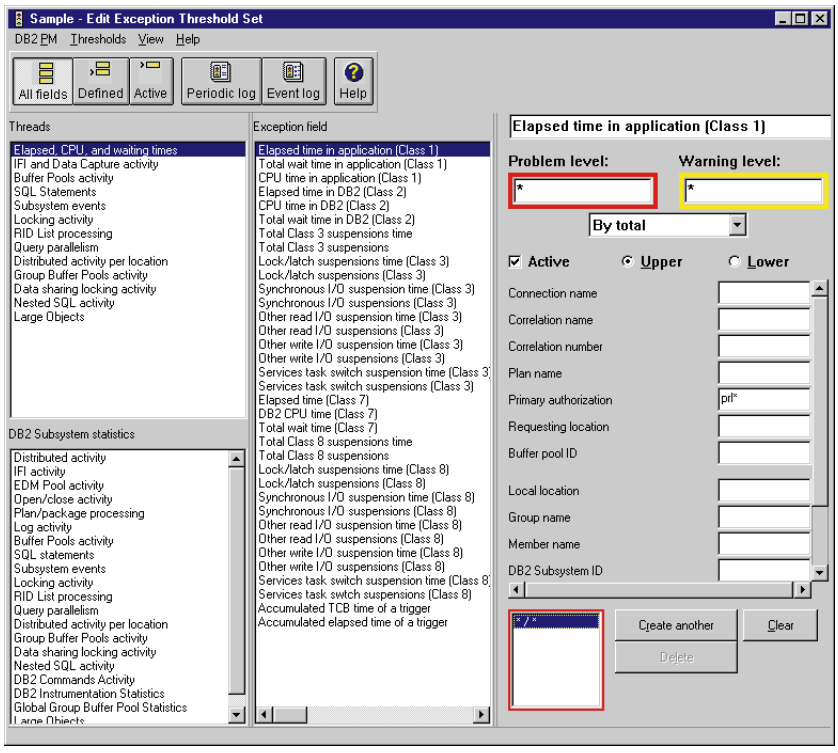

Figure 2. Edit Exception Threshold Set window

Once the Exception Profiling function is completed, the output data set is transferred back to the workstation and imported for further usage.

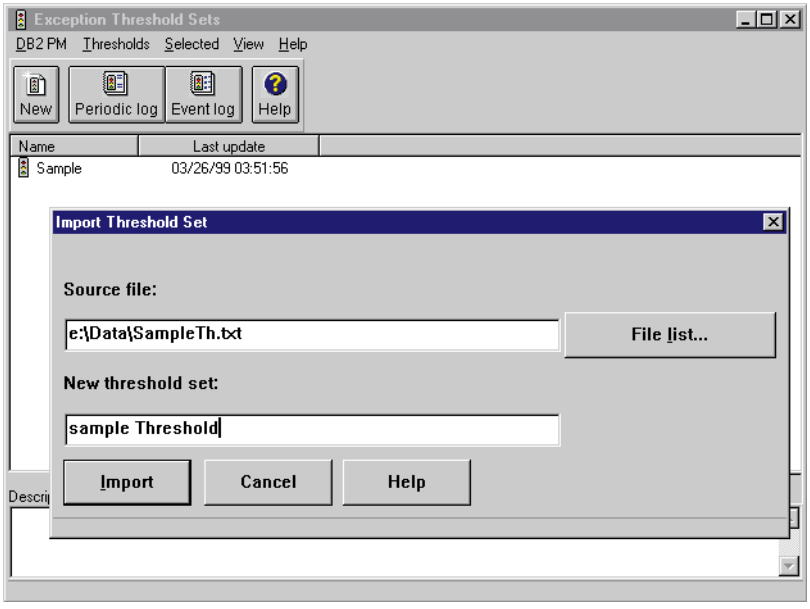

Figure 3. Import Threshold Set window

A warning threshold alerts you to potential problems. A problem threshold indicates a more serious condition.

Let's assume that in this case limits of 1500 and 1800 seconds have been calculated. So, if the class 1 elapsed time value is exceeding 1500 seconds, it is indicated as warning. If it exceeds 1800 seconds, it is indicated as problem.

Detecting the time-critical area

Now that you defined the thresholds, you activate periodic exception processing. This means that DB2 PM checks for time-exceeding events even if you are not logged on.

This checking routine runs on the host server. If an exception occurs while you are logged on to DB2 PM, a pop-up window (and optionally an audio alarm) informs you about the problem and warning exceptions detected during the interval. If you are not connected, you are notified by a pop-up window when you connect to the host the next time.

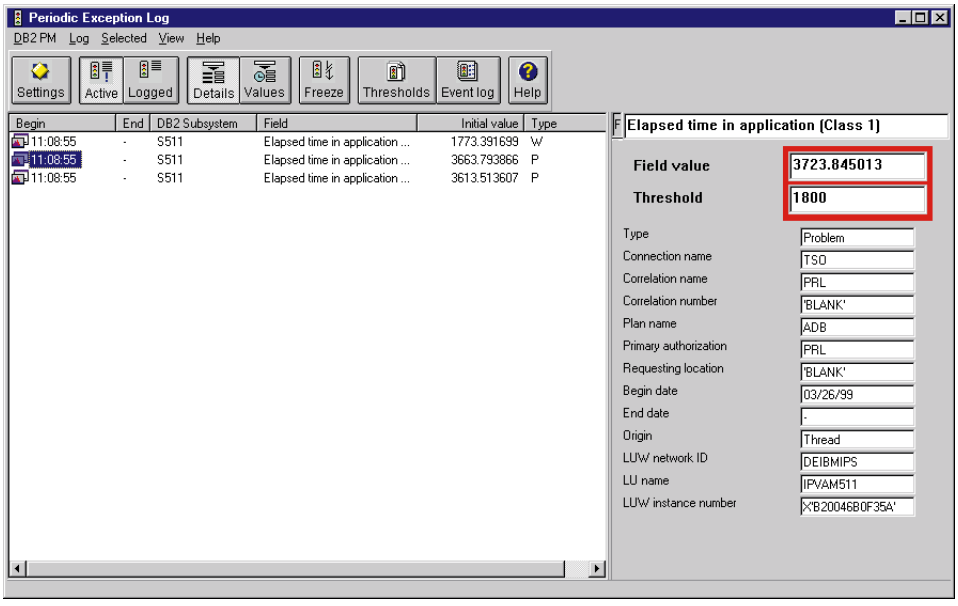

Figure 4. Periodic Exception Log window

The fields on the right-hand side of the Periodic Exception Log window provide details about the selected exception. Using the Display Thread History function, you can find precise information about the time-exceeding event.

Because class 1 time is the time spent within the application, the excessive class 1 time causing the exception could be caused by a possible SQL statement problem. The explain function of Visual Explain lets you further investigate the SQL statement executing at the time the exception occurred and gives you details on the access paths chosen by DB2 to process it. The resulting output could give you the reason for the excessive time spent, for example, a table space scan is used instead of an index.

Solving problems instantaneously

Besides using periodic exception processing, which checks for specified threshold limits, you can also request to be informed about exceptional events, such as deadlock or timeout situations. When you perform exception processing as part of your regular monitoring, you are always kept informed of any exceptional conditions—an easy way of staying permanently up to date on what is going on in your system and solving problems as soon as they occur. And what is more, you can quickly focus on areas that could prevent you from meeting your performance objectives.

Coping with a lock suspension problem

The following example shows how you can identify a possible lock suspension problem.

Poor response time is usually the prime indicator of a performance problem. DB2 response times are classified as follows:

Class 1 The time spent in the application.

Class 2 The time spent in DB2.

Class 3 Various waits, such as the duration of suspensions due to waits for locks and latches or waits for I/O.

In this case you are primarily interested in the class 3 time, which indicates any suspensions.

The **Thread Summary** window lists all active threads connected to the DB2 subsystem you are monitoring, their status, and their response times. If there are many threads, you can sort them by DB2 PM identifiers in ascending or descending sequence in order to place the more important threads on top. In this example, the Qualify function was used to filter the threads and display only the ones that match selected DB2 PM identifiers.

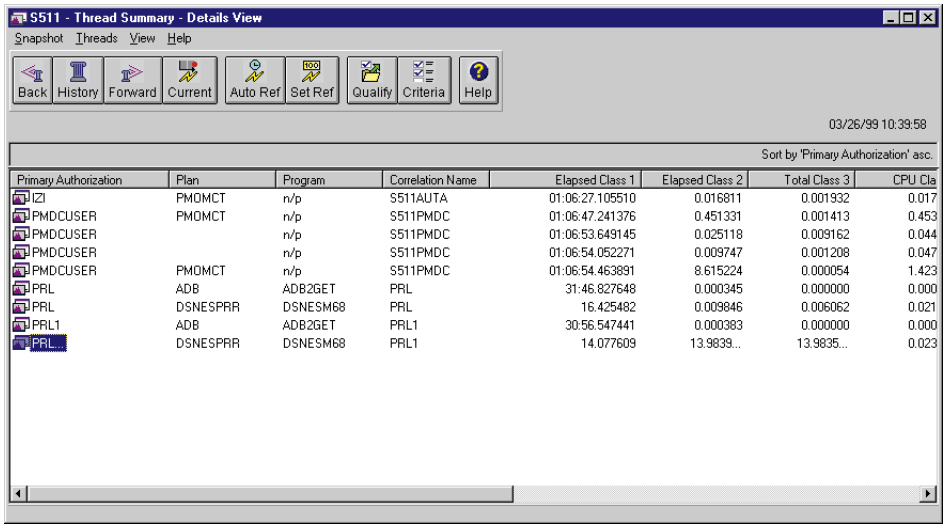

Figure 5. Thread Summary window

In this scenario the threads have not been sorted. However, the **SORT** function can be helpful if you want to sort threads by class 3 times in descending sequence so that threads with the most time spent waiting due to lock and latch suspensions are sorted to the top. In this case PRL1 would be the top entry in the Thread Summary window.

To get more detailed information about the class 3 lock and latch times of PRL1, double-click on the icon next to the corresponding line. The **Thread Details** window is displayed.

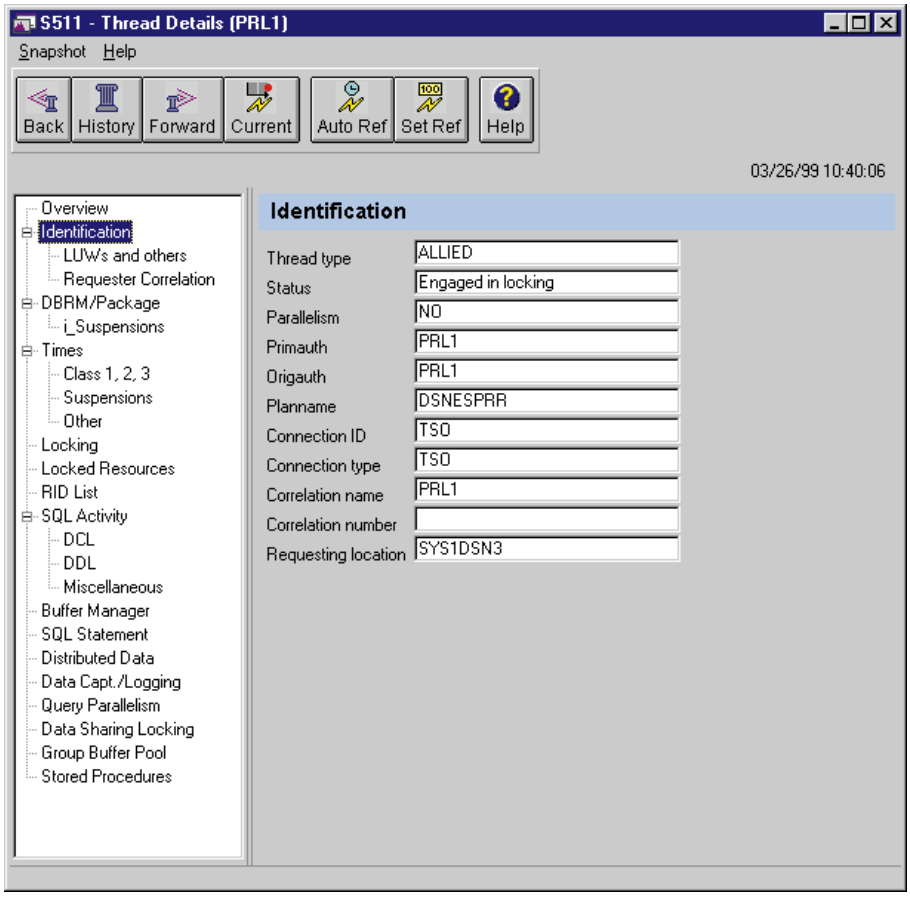

Figure 6. Thread Details window

By selecting the Identification section of the Thread Details window, you can see that the thread is in LOCK status. To check for objects that are locked or held by the monitored thread, you can select the **Locked Resources** section.

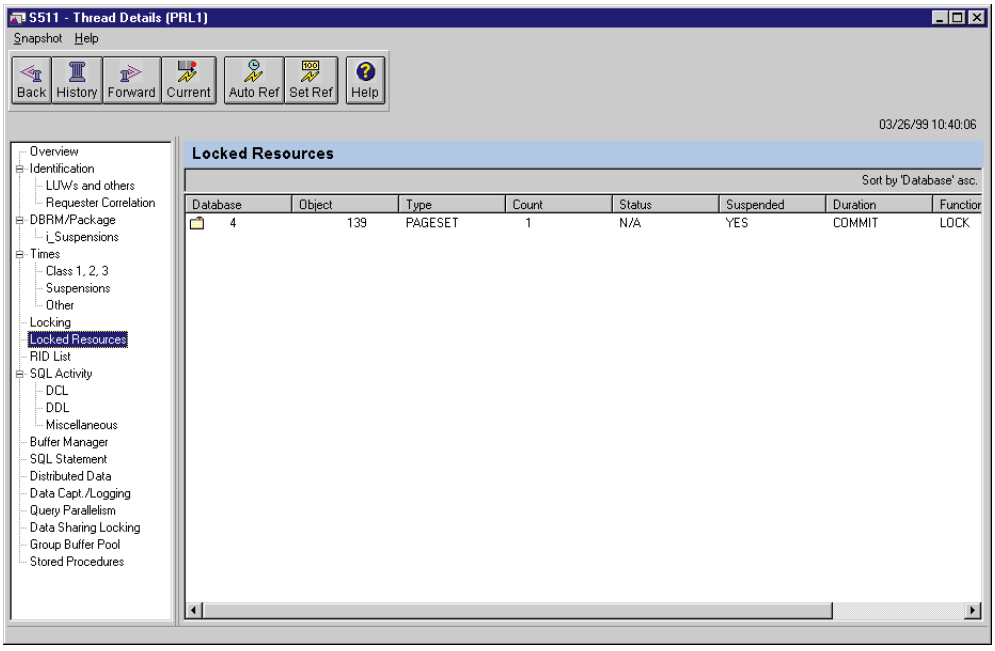

Figure 7. Locked Resources window

On the **Locked Resources** section you can view all objects that are suspended because they are locked or held by the selected thread with the primary authorization ID PRL1.

Chapter 5. What's new in Version 6

DB2 PM for OS/390 Version 6 comprises full performance monitoring and problem determination support for all functions of DB2, including the ones that have been added to DB2 UDB for OS/390 Version 6. For example, DB2 PM now shows times and events for the newly introduced triggers and user-defined functions, and it monitors the behavior of large objects and the new ROWID data type.

The following major functions are new to DB2 PM Version 6:

- Improvements in monitoring using the workstation interface
- Enhanced DB2 Installer
- Online monitoring of data sharing groups

Improvements in monitoring using the workstation interface

To enhance DB2 PM's online monitoring capabilities, an OS/2 based Online Monitor has already been added to DB2 PM Version 5. While this Workstation Online Monitor has been constantly improved, DB2 PM also introduced a Windows NT version of the Online Monitor to even further support environments where Windows NT is installed. This Windows NT Online Monitor supports the TCP/IP protocol; the OS/2 Online Monitor supports the APPC protocol. Both OS/2 and Windows NT based Online Monitors have some significant advantages:

- Eliminate the need to monitor through TSO.
- Improve your efficiency with an easy-to-use graphical interface.
- Monitor multiple DB2 for OS/390 subsystems concurrently.
- Offer improved tuning recommendations on a per-field basis.
- Let you submit DB2 commands from DB2 PM workstation windows.
- Display historical data in enhanced System Health graphics.

In addition, the following enhancements have been added to the Workstation Online Monitor to make monitoring even more efficient:

- Using DB2 PM's Collect Report Data function, you can gather information about data and events in DB2. The only thing you have to do is start this function and decide the kind of data you want to collect. You do not have to know which traces to start, you just specify the report you want. The data collection can be triggered and stopped by various criteria. This capability is planned to be delivered via service update to DB2 PM after the general availability release date of Version 6.
- DDF threads are shown in further detail. Now you can get information on the end user's user ID, the workstation name, and the transaction name, which you can use as ordering and filtering criteria to customize your report sets.
- Thread sort.
- You can monitor data set statistics information for buffer pools online or request it in statistics reports.
- Statistics data is provided for cached SQL statements, so you can analyze and evaluate their efficiency.
- Intervall processing.
- Reporting of statistics delta.

Enhanced DB2 Installer

In Version 6, you can install and customize DB2 PM from your workstation using a graphical interface, which guides you through the installation sequence and assists with help functions, if necessary. This is accomplished by the DB2 Installer, which is delivered with DB2 and has been extended to include installation support for DB2 PM. Now you can use the same workstation flexibility to:

- Install DB2 PM and control the overall installation process
- Run SMP/E installation jobs

You receive job status information dynamically, and you can edit JCL, perform job cleanup, and examine job output from the workstation. The DB2 Installer enhances your productivity significantly whether you are installing DB2 PM for the first time or are an experienced installer.

Online monitoring of data sharing groups (Sysplex) via a single member connection

The following functions support online monitoring of a Sysplex environment. This capability is planned to be delivered via service update to DB2 PM after the general availability release date of Version 6.

- Connect to a whole data sharing group.
- Display threads that are running in a data sharing group. This way you get an overview of all threads, even if they run on several members.
- Display threads that are running on a single member.
- Display threads and statistics information of any member of a data sharing group on your workstation window.

Chapter 6. Planning for DB2 PM

As DB2 PM Version 6 is a feature of Database 2 Universal Database Server for OS/390, the DB2 requirements must be met. For a detailed list of DB2's prerequisites, see the appropriate DB2 documentation. In particular, DB2 PM requires the following hardware and software components.

Hardware requirements

The following hardware is required to run DB2 PM:

- For the workstation-based Online Monitor:
  - High resolution monitor
  - Workstation capable to run OS/2 or Windows NT
- For the host-based Online Monitor:
  - Display station that is supported by Interactive System Productivity Facility (ISPF)
- For the host-based graphics facility:
  - IBM color graphics display station, or equivalent, that is supported by Graphical Data Display Manager (GDDM(R))

Software requirements

For the host-based functions, DB2 PM requires the same operating environment as DB2.

For the OS2 based Online Monitor:

- OS/2 Warp Version 3 or later
- Communications Manager/2 at Fixpack 1.11 or later, or Personal Communications plus Access Feature

For the Windows NT based Online Monitor:

- Windows NT Version 4.0 at Fixpack 3 or later

Optionally for explaining SQL statements:

- Visual Explain

Query support:

- Query Management Facility (QMF), a feature of DB2 UDB for OS/390 Version 6

For the host-based graphics facility:

- GDDM Presentation Graphics Feature (GDDM/PGF), a feature of OS/390 Version 1 Release 3

Compatibility

DB2 PM for OS/390 Version 6 is upward compatible with:

- DB2 PM for OS/390 Version 5
- DB2 PM for MVS Version 4

DB2 PM for OS/390 Version 6 supports the following versions of DB2:

- IBM DATABASE 2 Universal Database Server for OS/390 Version 6 (5645-DB2)
- IBM DATABASE 2 Server for OS/390 Version 5 (5655-DB2)
- IBM DATABASE 2 for MVS/ESA Version 4 (5695-DB2)

Migrating

Migration from DB2 PM Version 5 and from DB2 PM Version 4 to DB2 PM Version 6 is supported.

Version 5 of DB2 PM is still generally available. So if you do not plan to migrate to DB2 Version 6 in the near future, you can order DB2 PM Version 5 and run it together with DB2 Version 5.

Packaging

DB2 PM comes in a package together with DB2. It is shipped on either one of the following:

- 9/6250 magnetic tape
- IBM 3480 cartridge
- 4-mm data cartridge

An initial set of documentation is provided with the product. A try-and-buy period of 90 days applies.

Service

IBM provides service for the efficient installation, implementation, and integration of DB2 PM. Contact your IBM Marketing Representative for the full scope of the available services.

Chapter 7. Do you need further information?

IBM contact

For further information on IBM's DB2 PM, contact your local IBM office, or write to:

- IBM Deutschland Entwicklung GmbH
  Department 3704
  Hanns-Klemm-Strasse 45
  D-71034 Boeblingen Germany
- Fax: +49-7031-16-6440
- E-mail: db2pm@de.ibm.com.

DB2 PM on the Internet

For the latest news on DB2 PM, visit the DB2 PM Internet home page http://www.software.ibm.com/data/dbtools/db2n1mst.html

Ordering information

Product	Product number
DB2 UDB for OS/390 V. 6	5645-DB2

More books on DB2 PM

The following publications are supplied with DB2 PM:

IBM DB2 Performance Monitor for OS/390 Version 6 Report Reference Volume 1, SC26-9164

IBM DB2 Performance Monitor for OS/390 Version 6 Report Reference Volume 2, SC26-9165

IBM DB2 Performance Monitor for OS/390 Version 6 Online Monitor User's Guide, SC26-9168

IBM DB2 Performance Monitor for OS/390 Version 6 Batch User's Guide, SC26-9167

IBM DB2 Performance Monitor for OS/390 Version 6 Command Reference, SC26-9166

IBM DB2 Performance Monitor for OS/390 Version 6 Messages, SC26-9169

IBM DB2 Performance Monitor for OS/390 Version 6 Using the Workstation Online Monitor, SC26-9170

IBM DB2 Performance Monitor for OS/390 Version 6 Installation and Customization, SC26-9171

The DB2 PM library can also be ordered collectively as a set. To order a set of books, use the number: SBOF-7414. The above books are also available as BookManager(R) softcopy and PDF files on the *DB2 Universal Database Server for OS/390 Version 6 Online and PDF Library* collection kit, SK3T-3518-00. When you order DB2 Version 6, you are entitled to one copy of this CD-ROM at no additional charge. Periodic updates will be provided on this CD-ROM, and you will automatically receive one copy of the CD-ROM each time it is updated.

Related publications

If you want to find out more about DB2 and its enhancements in Version 6, refer to:

DB2 Universal Database Server for OS/390 Version 6 What's New?, GC26-9017

DB2 Universal Database Server for OS/390 Version 6 Release Guide, SC26-9013

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